BSTZ No. 002013.P036D Express Mail No.: EV 339905694US

ABSTRACT OF THE DISCLOSURE

An optical device chip including an input/output pad formed on a substrate, an under bump metal layer formed on the input/output pad, and a solder bump formed on the under bump metal layer to transmit an electric signal to the outside is prepared. A silicon wafer is prepared to rearrange input/output terminals of the chip and passively align an optical fiber with the optical device chip. Through holes are formed in the silicon wafer at predetermined intervals. An under ball metal layer is formed at the surface of the silicon wafer. A solder ball is formed on the under ball metal layer to transmit a signal to the outside. The optical device chip is flip-chip-bonded to the silicon wafer. An optical sub module is made by cutting the silicon wafer. The chip is optically connected with the optical sub module.